1. A method for forming a layer on a substrate disposed in a processing chamber, said method comprising:

chemisorbing onto said substrate alternating monolayers of a first compound and a second compound, with said second compound having fluorine atoms associated therewith, with each of said first and second compounds being introduced into said processing chamber along with a carrier gas; and

controlling a quantity of said fluorine atoms associated with the monolayer of said second compound as a function of said carrier gas.

2. The method of claim 1 wherein controlling said quantity of said fluorine atoms further including selecting said carrier gas from a group of gases consisting of nitrogen (N_2), argon (Ar), hydrogen (H_2).

3. The method as recited in claim 1 wherein said first compound includes a boron-containing compound.

B1 4. (Amended) The method of claim 1 wherein said second compound includes a refractory metal selected from the group consisting of titanium (Ti) and tungsten (W).

5. The method of claim 1 further including purging said processing chamber following chemisorption of each of the alternating monolayers.

6. The method as recited in claim 3 wherein purging said processing chamber includes introducing a purge gas therein.

7. The method as recited in claim 3 wherein purging said processing chamber includes pumping said processing chamber to evacuate all gases disposed therein.

8. The method as recited in claim 3 wherein purging of said processing chamber includes introducing a purge gas therein and subsequently pumping said processing chamber clear of all gases disposed therein.

9. The method as recited in claim 6 wherein said purge gas and said carrier gas have identical constituents selected from a group consisting of nitrogen (N_2), argon (Ar), hydrogen (H_2).

10. (Amended) A method for forming a layer on a substrate disposed in a processing chamber, said method comprising:

serially exposing said substrate to first and second reactive gases, with said first reactive gas having a first compound associated therewith and said second reactive gas having a second compound associated therewith, to form alternating monolayers of said first compound and said second compound, with said second compound having fluorine atoms associated therewith;

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controlling a quantity of said fluorine atoms associated with the monolayer of said second compound by introducing into said processing chamber a carrier gas along with said first and second reactive gases; and

purging said processing chamber following chemisorption of each of the alternating monolayers.

11. The method as recited in claim 10 wherein purging said processing chamber includes introducing a purge gas therein.

12. The method as recited in claim 11 wherein purging said processing chamber includes pumping said processing chamber to evacuate all gases disposed therein.

13. (Amended) The method as recited in claim 12 wherein said first compound includes diborane (B_2H_6) and said second compound is tungsten (W).

14. The method as recited in claim 13 wherein said purge gas and said carrier gas have identical constituents selected from a group consisting of nitrogen (N_2), argon (Ar), hydrogen (H_2).

15. (Amended) A processing system for processing a substrate in a processing chamber, said system comprising:

means for chemisorbing, onto said substrate, alternating monolayers of a first compound and a second compound, with said second compound having fluorine atoms associated therewith, with each of said first and second compounds being introduced into said processing chamber along with a carrier gas; and

means for controlling a quantity of said fluorine atoms associated with the monolayers of said second compound as a function of said carrier gas.

B3 16. (Amended) A processing system for a substrate, said system comprising:

a body defining a processing chamber;

a holder disposed within said processing chamber to support said substrate;

a gas delivery system in fluid communication with said processing chamber;

a first temperature control system in thermal communication with said processing chamber;

a pressure control system in fluid communication with said processing chamber;

a controller in electrical communication with said gas delivery system, said temperature control system, and said pressure control system; and

a memory in data communication with said controller, said memory comprising a computer-readable medium having a computer-readable program embodied therein, said computer-readable program including a first set of instructions for controlling said gas delivery system to chemisorb, onto said substrate, alternating monolayers of a first compound and a second compound, with said second compound having fluorine atoms associated therewith, with each of said first and second compounds being introduced into said processing chamber along with a carrier gas, and a second set of instructions to control said gas delivery system to control a quantity of said fluorine atoms associated with the monolayer of said second compound by introducing, into said processing chamber, a carrier gas along with said first and second compounds.

17. The processing system as recited in claim 16 wherein said computer-readable program includes an additional set of instructions to control said gas system to purge

said processing chamber by introducing a purge gas therein following chemisorption of each of the alternating monolayers.

18. The processing system as recited in claim 16 wherein said computer-readable program includes a further set of instructions to control said pressure control system to purge said processing chamber by evacuating said processing chamber following chemisorption of each of the alternating monolayers.

19. The processing system as recited in claim 16 wherein said compound includes a boron-containing compound and said second compound includes a refractory metal compound with said refractory metal compound being from the group consisting of titanium and tungsten and said purge gas and carrier gases each being from the group consisting of nitrogen (N_2), hydrogen (H_2) and argon (Ar).

20. The processing system as recited in claim 19 wherein said purge gas and said carrier gas having differing constituents.

Please add the following new claims:

21. (New) The method of 6 wherein the purge gas and the carrier gas have differing constituents.

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22. (New) A method for forming a layer on a substrate disposed in a processing chamber, said method comprising:

depositing a layer on the substrate from a first compound comprising fluorine and exposing the layer to a second compound, with each of said first and second compounds being introduced into said processing chamber along with a carrier gas; and

controlling a quantity of fluorine associated with the layer by using hydrogen (H_2) as the carrier gas.

23. (New) A method for forming a layer on a substrate disposed in a processing chamber, said method comprising:

serially exposing said substrate to first and second reactive gases to deposit monolayers on the substrate, with said first reactive gas having fluorine atoms associated therewith;

controlling a quantity of said fluorine atoms associated with the monolayers by introducing into said processing chamber hydrogen (H_2) as a carrier gas along with said first and second reactive gases; and

purging said processing chamber following deposition of each of the monolayers.

24. (New) A processing system for processing a substrate in a processing chamber, said system comprising:

means for depositing, onto said substrate, monolayers from a first compound and a second compound, with said first compound comprising fluorine and each of said first and second compounds being introduced into said processing chamber along with hydrogen (H_2) as a carrier gas; and

means for controlling a quantity of fluorine associated with the monolayers as a function of said carrier gas.

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25. (New) A processing system for a substrate, said system comprising:

a body defining a processing chamber;

a holder disposed within said processing chamber to support said substrate;

a gas delivery system in fluid communication with said processing chamber;

a first temperature control system in thermal communication with said processing chamber;

a pressure control system in fluid communication with said processing chamber;

a controller in electrical communication with said gas delivery system, said temperature control system, and said pressure control system; and

a memory in data communication with said controller, said memory comprising a computer-readable medium having a computer-readable program embodied therein, said computer-readable program including a first set of instructions for controlling said